



45 Times Greater Bioavailability CURCUMIN



Patented **turmeric** and **fenugreek blend** (500 mg) results in **45 times** greater bioavailability of free **curcuminoids**.

Item #02407

500 mg, 60 vegetarian capsules

1 bottle **\$24** • 4 bottles \$22 each



Same 500 mg potency of patented **turmeric** and **fenugreek blend** with added benefits of **ginger** and other **turmeric** actives.

Item #02324

500 mg curcumin + gingerol, 30 softgels

1 bottle **\$20** • 4 bottles \$18 each

For full product description and to order **Curcumin Elite™** or **Advanced Curcumin Elite™**, call 1-800-544-4440 or visit www.LifeExtension.com



These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

A Silent Disorder Goes Epidemic



WILLIAM FALOON

In **1999**, I reviewed an article for publication in this magazine that described a **liver disease** that I had not heard of.

The authors told me this “**silent**” disorder would lead to widespread illness and premature death.

Move forward 20 years, and **nonalcoholic fatty liver disease** has emerged as the leading cause of chronic **liver disease**.¹

The underlying culprits are **obesity** and **insulin resistance**.^{2,3}

In **1980**, obesity was rare in the United States, affecting only **13%** of adults according to some reports.⁴

In the most recent study period (**2017-2018**), a startling **42.4%** of American adults were **obese**.⁵

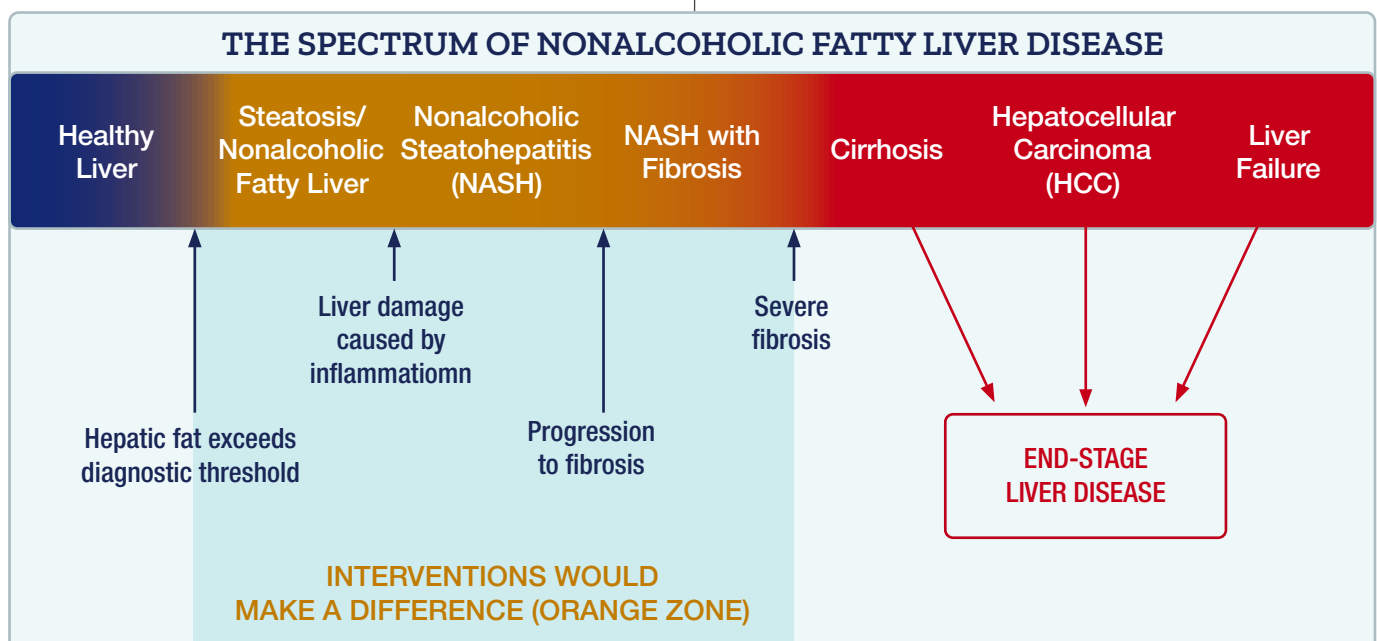
Nonalcoholic fatty liver disease afflicts up to **75%** of **overweight** adults, approximately **75%** of **type II diabetics**, and about **90%** of **obese** individuals.^{2,6}

People with **nonalcoholic fatty liver disease** are seeking our assistance in combating its multiple morbidities.

The most effective treatment for early-to-mid-stage **nonalcoholic fatty liver disease** (NAFLD) is **weight loss**.⁷ Adjuvant approaches can also help.

Once NAFLD fatty liver disease advances to **cirrhosis**, the only long-term treatment option is a **liver transplant**.⁸

An article in this month’s issue describes ways to help protect **liver health**.



Nonalcoholic fatty liver disease or NAFLD begins when excess **fat** accumulates in liver cells. Over time, it can progress to advanced **fibrosis** and **cirrhosis**.⁹

As the condition is generally asymptomatic or has very mild symptoms initially, many people do not know they have it unless a **blood test** detects abnormal levels of **liver enzymes**.

When detected in time, **NAFLD** is a reversible condition, meaning those afflicted can avoid progressing to advanced-stage disease that requires a liver transplant.¹⁰

Fatty Liver Disease and Cancer

Liver failure is the most common manifestation of advanced nonalcoholic fatty liver disease (NAFLD).⁶

Another NAFLD risk is **primary liver cancer** called **hepatocellular carcinoma**.¹³ Five-year survival for this malignancy is less than **20%**.¹⁴

A study published in **2018** evaluated 296,707 **NAFLD** patients and compared them with 296,707 matched **controls**. (This is a huge number of people to evaluate.)

This study found a more than **7.6-fold higher** risk of **hepatocellular carcinoma** among **NAFLD** patients compared to controls.¹⁵

NAFLD patients with **cirrhosis** had an even greater incidence of **hepatocellular carcinoma**.

A medical-record review from this study found that approximately **20%** of **NAFLD** patients with **hepatocellular carcinoma** had no evidence of **cirrhosis**.

This finding reveals **hepatocellular carcinoma** (HCC) risk in **NAFLD** patients who have not advanced to late-stage (cirrhosis) liver disease.¹⁵

This means people can skip past cirrhosis of the liver and develop primary liver cancer.

Diagnosing NAFLD

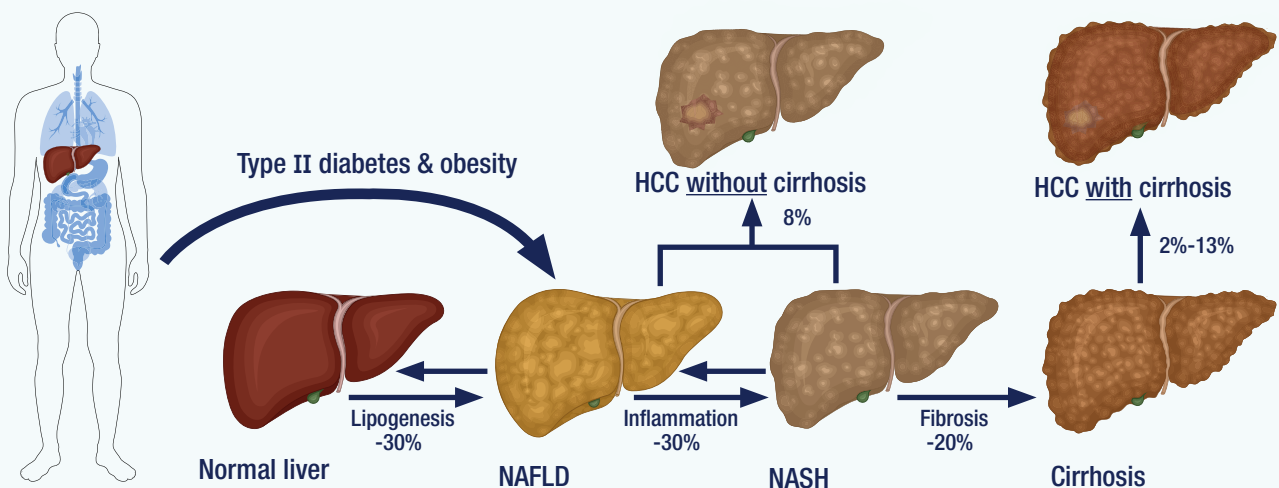
If you have a history of *any* of the following medical conditions you are at much greater risk of having some degree of **NAFLD**:⁶

- **Excess body weight (abdominal obesity)**
- **Insulin resistance or type II diabetes**
- **Metabolic syndrome**

Most patients with NAFLD, especially early in the disease, are **asymptomatic**, and are only identified when their disease becomes advanced.

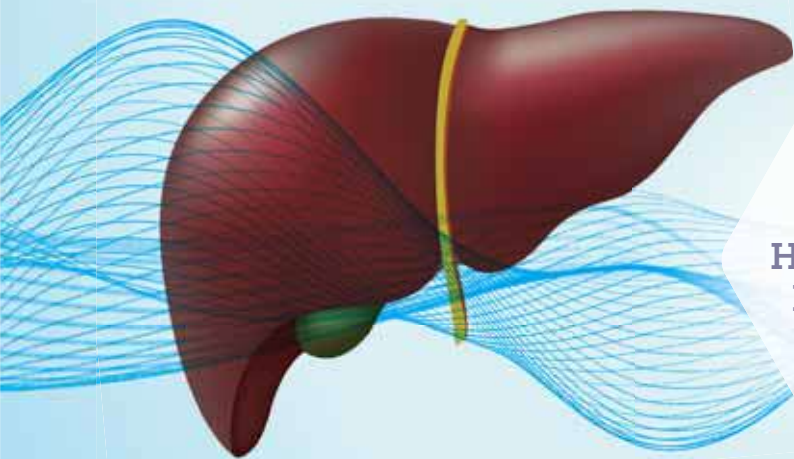
Abnormal liver test results are frequently the earliest evidence of NAFLD, which emphasizes the value of routine laboratory testing to identify asymptomatic NAFLD patients.

The Progression of NAFLD / NASH to HCC



Type II diabetes and obesity aggravate the progression of NAFLD to **hepatocellular carcinoma** (HCC). Clinically, type II diabetes coexists with NAFLD, and it aggravates NAFLD to more severe forms of hepatocirrhosis and HCC.

THE PROGRESSION OF NAFLD / NASH TO HCC BY MDPI, BASEL, SWITZERLAND CC BY 4.0



The Human Liver

More than 500
Vital Functions

Destroys
Old Red
Blood Cells

Detoxes
Blood

Processes
Nutrients

Regulates
Blood
Composition

Breaks Down
Alcohol &
Medications

Produces
Proteins &
Cholesterol

Produces
Bile

Essential Liver Functions

More than **500** processes require healthy liver function, such as:¹¹

- Making bile to carry away waste, break down fats during digestion
- Producing albumin and other blood plasma proteins
- Converting excess glucose into glycogen for storage
- Making proteins to carry fats through the body
- Balancing blood glucose levels
- Regulating blood levels of amino acids
- Processing hemoglobin
- Converting poisonous ammonia to urea
- Clearing the blood of drugs and other toxic substances
- Regulating blood clotting
- Resisting infections by making immune factors and removing bacteria from the bloodstream
- Clearing bilirubin

In advanced liver disease, when **liver function** is **impaired**, the result is systemic havoc that may manifest as fatigue, abdominal pain, and fluid accumulation, along with increased **cardiovascular** and **diabetic** risks.¹²

In particular, the **liver enzymes** alanine aminotransferase (ALT) and aspartate aminotransferase (AST) can be elevated in up to **50%** of patients with **NAFLD**.¹⁶

Triglycerides can also be elevated in NAFLD but may not be in the early course of disease.

These three screening tests (ALT, AST, and triglycerides) are included in **Life Extension®'s** comprehensive **CBC/Chemistry Panel** for only **\$35**.

The **CBC/Chemistry Panel** can be ordered 24-hours a day by calling **1-800-208-3444** or logging on to: www.LifeExtension/blood

Most of you live close to a drawing station so you can walk in for the **CBC/Chemistry Panel** at your convenience. Fast for eight hours before your blood draw.

Diagnosing Advanced Liver Disease

Symptoms of advanced NAFLD and cirrhosis can include loss of appetite, pain in the upper right abdomen, fatigue, muscle loss, and/or fluid accumulation in your belly (ascites).¹⁷

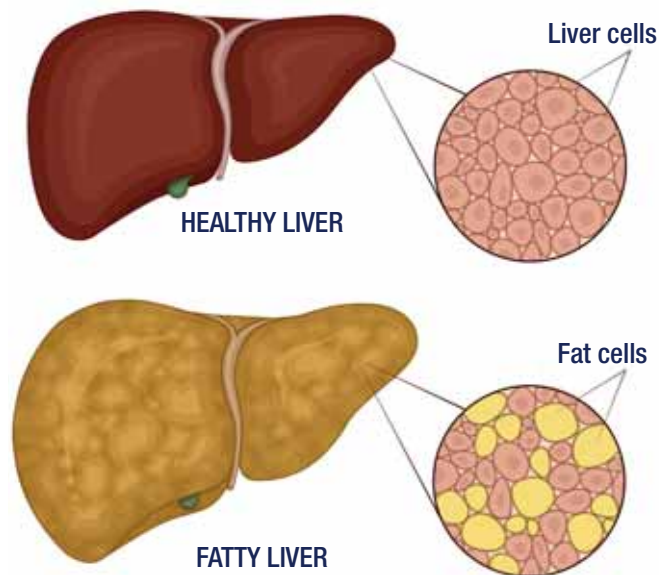
A physician's exam can reveal an enlarged liver, spleen, and other clinical signs with advanced NAFLD.

There are a variety of **imaging** (MRI, ultrasounds, CT) and advanced **blood tests** that can detect suspicious liver abnormalities. These diagnostic tests are often useful to identify the degree of fatty liver damage.

One such blood test for those at risk is called **NASH FibroSure**. It is designed to assess what degree of liver damage has occurred.

The cost of this blood test is a prohibitive **\$595**. For those with symptoms/signs of NAFLD, it might be best to have your physician prescribe this test and hopefully have it covered by your health insurance.

Nonalcoholic Fatty Liver Disease



For definitive diagnosis, liver biopsies can establish the stage, and degree of structural damage in patients with **NAFLD**.

Reversing Damage Caused by NAFLD

If caught in time, healthy dietary and lifestyle choices can stop and help reverse fatty accumulation in your liver cells.

The single most effective way to control or reverse NAFLD is **weight loss**.

Those who wait for **NAFLD** to reach advanced stages have few treatment options beyond being placed on a **liver transplant** waiting list.

Prevention remains the most effective strategy!

For longer life,

William Faloon, Co-Founder
Life Extension®



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LOW-COST BLOOD TESTING

Blood tests can detect underlying health issues before serious illness manifests.

Cutbacks by Medicare and private insurance companies have caused important tests to be omitted from standard panels.

The basic blood panel offered by **Life Extension®** provides far more tests than what most conventional labs check for today including important **liver** health markers.

For the low price of **\$35**, the **Life Extension®**
CBC/Chemistry Panel provides:

LIVER FUNCTION:

Alkaline phosphatase
LDH (lactate dehydrogenase)
AST (aspartate aminotransferase)
ALT (alanine transaminase)
Total protein
Albumin
Globulin
Albumin/globulin ratio
Bilirubin

Complete Blood Count:

Red blood cell count • Hemoglobin
Hematocrit • MCV (mean corpuscular volume)
MCH (mean corpuscular hemoglobin)
MCHC (mean corpuscular hemoglobin concentration)
RDW (red blood cell distribution)
White blood cell count
Immune Cell Differentiation Count
Platelet count

Lipid Profile:

Total cholesterol • Triglycerides
HDL cholesterol • LDL cholesterol (calc.)
VLDL cholesterol (calc.)
Total cholesterol/HDL ratio
Estimated Coronary Heart Disease risk

Blood Sugar:

Fasting glucose

Kidney Function:

Uric acid • BUN (blood urea nitrogen)
Creatinine • BUN/creatinine ratio
eGFR (estimated glomerular filtration rate)

Electrolytes and Minerals:

Sodium • Potassium
Chloride • Calcium
Phosphorus • Iron

You can place your order by calling **1-800-208-3444**
or visit [**LifeExtension.com/CBC**](https://LifeExtension.com/CBC)

You'll be sent a list of drawing stations in your area along with a pre-paid requisition. You can walk into the drawing station nearest you at your convenience.

Our price for these tests is about **50%** less than commercial labs, and you get results back fast. You also have free access to our Wellness Specialists to help review your results.

To order this comprehensive
CBC/Chemistry blood panel for
only **\$35**, call **Life Extension** today
at **1-800-208-3444** or order online
at [**LifeExtension.com/CBC**](https://LifeExtension.com/CBC)

HIGHLY PURIFIED

Fish Oil

Super Omega-3 provides components found in **Mediterranean diets**, including **sesame lignans** to extend the stability of **DHA** in the blood.



SUPER OMEGA-3 PLUS
EPA/DHA Fish Oil, Sesame Lignans,
Olive Extract, Krill & Astaxanthin
(2,520 mg of EPA + DHA in four softgels)

Item #01988 • 120 softgels

1 bottle **\$34.50**

4 bottles \$32 each



SUPER OMEGA-3*
EPA/DHA Fish Oil,
Sesame Lignans & Olive Extract
(2,400 mg of EPA + DHA in four softgels)

Item #01982 • 120 softgels

1 bottle **\$24.75**

4 bottles \$22 each

For full product description and to order **Super Omega-3**, or **Super Omega-3 Plus**, call 1-800-544-4440 or visit www.LifeExtension.com



CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

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